

REMARKS

Applicants have amended their claims in order to further clarify the definition of various aspects of the present invention. Specifically, Applicants have amended claims 1 and 2 to recite a semiconductor wafer, rather than a semiconductor substrate; and have further amended each of claims 1 and 2 to recite a thermal chemical vapor deposition chamber, and to recite a chemical vapor deposition method for forming the silicon film. Note, for example, from page 1, line 13 through page 3, line 18, of Applicants' substitute specification submitted with the Preliminary Amendment filed September 23, 2004 (hereinafter "Applicants' Substitute Specification"), together with Figs. 3, 4, 6, 10 and 13 of Applicants' original disclosure and corresponding descriptions in connection therewith from page 9, line 2 through page 10, line 16, the paragraph bridging pages 14 and 15, and from page 16, line 20 through page 19, line 8, of Applicants' Substitute Specification.

Applicants are adding new claims 14 and 15 to the application. Claims 14 and 15 set forth subject matter of claims 10 and 11, respectively, in independent form, changing the subject matter thereof to recite a semiconductor wafer rather than a semiconductor substrate, to recite a thermal chemical vapor deposition chamber, and to recite a chemical vapor deposition method for forming the silicon film. In light of new claims 14 and 15, Applicants have cancelled claims 10 and 11 without prejudice or disclaimer; in addition, Applicants have also cancelled claims 3-9, 12 and 13 without prejudice or disclaimer, in order to facilitate proceedings in connection with the above-identified application.

Applicants thank the Examiner for the indicated allowance of claims 1 and 2, in the Office Action mailed March 27, 2006, and also note the indication by the Examiner in Item 10 on page 7 of the Office Action mailed March 27, 2006, that claims 10 and 11 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants set forth subject matter of claims 10 and 11 in independent form, as new claims 14 and 15; and, in particular, claims 14 and 15 respectively set forth recitations referred to by the Examiner in Items 13 and 14 on page 7 of the Office Action mailed March 27, 2006. It is respectfully submitted that claims 14 and 15 should be allowed.

The rejection of claims 3-9, 12 and 13 on prior art grounds, set forth in Items 2-9 on pages 2-7 of the Office Action mailed March 27, 2006, is noted. It is respectfully submitted that this rejection is moot, in light of present canceling of claims 3-9, 12 and 13 without prejudice or disclaimer.

The undersigned notes the Examiner's statement of reasons for the indication of allowable subject matter (in connection with claims 10 and 11) and of reasons for allowance (in connection with claims 1 and 2), set forth in Items 13, 14, 18 and 19 on pages 7 and 8 of the Office Action mailed March 27, 2006. In addition thereto, the following is noted.

Thus, U.S. Patent No. 6,399,411 to Hori, et al discloses a method and apparatus for forming on a substrate a non-single-crystal semiconductor thin film of a large area, useful, for example, in mass-producing photovoltaic devices of large area. The method includes, inter alia, inducing a plasma in a film-forming space (e.g., a microwave-excited plasma) in a film deposition chamber, and forming a non-single-crystal semiconductor thin film on a

surface of a belt-like substrate provided in the film deposition chamber. Note, for example, column 5, lines 4-44, of Hori, et al.

Thus, Hori, et al discloses formation of non-single-crystal semiconductor (e.g., amorphous silicon) thin films. This reference does not disclose, nor would have suggested, a thermal chemical wafer deposition procedure utilizing a thermal chemical vapor deposition chamber.

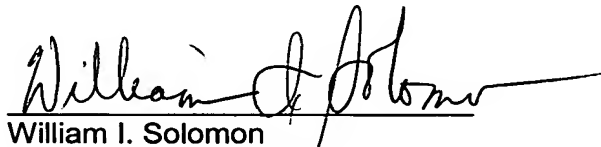
Moreover, generally speaking, a plasma chemical vapor deposition apparatus does not have a heater corresponding to those utilized in a thermal chemical vapor deposition apparatus. It is respectfully submitted that the temperature rise occurring in a plasma chemical vapor deposition apparatus takes place as a result of plasma excitation. This plasma excitation is performed in a vacuum, and, therefore, there is no temperature rise prior to the reduction of pressure inside the plasma chemical vapor deposition apparatus.

In such procedure as in Hori, et al, it is respectfully submitted that there is no disclosure, and would have been no suggestion, of such fabrication method as in the present claims, including, inter alia, wherein the deposition, using a thermal chemical vapor deposition chamber, is performed by heating the chamber prior to the reduction of the inside pressure of the chamber (e.g., heating the inside of the chamber while keeping the inside of the chamber at , for example, atmospheric pressure, with the pressure inside the chamber being adjusted (reduced) to specified levels thereafter, as set forth in steps (c1) and (c2) in claims 1 and 2, and as set forth in steps (c) and (d) in claims 14 and 15.

In view of the foregoing comments and amendments, allowance of all claims remaining in the above-identified application, and passing of the above-identified application to issue in due course, are respectfully requested.

To the extent necessary, Applicants petition for an extension of time under 37 CFR §1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-2135 (Case No. 1374.43797X00) and please credit any excess fees to such deposit account.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "William I. Solomon", written over a horizontal line.

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WIS/kmh

Attachments